



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,208	03/26/2002	Marcus Benthin	1933	2996
7590	11/29/2005		EXAMINER	
Striker Striker & Stenby 103 East Neck Road Huntington, NY 11743			GHULAMALI, QUTBUDDIN	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/089,208	Applicant(s) BENTHIN, MARCUS
	Examiner	Art Unit
	Qutub Ghulamali	2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 12 September 2005.

2a)  This action is FINAL.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-5 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1, 4 and 5 is/are rejected.  
7)  Claim(s) 2 and 3 is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 26 March 2002 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/7/05.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_ .

## DETAILED ACTION

1. This Office Action is responsive to applicant's Remarks/Arguments filed on 09/12/2005.
2. The examiner acknowledges amendment submitted by the applicant, 09/12/2005, as satisfactory, the objections to claims 2 and 3, therefore, has been withdrawn.

### *Response to Remarks/Arguments*

3. Applicant's remarks/arguments filed 09/12/2005, in response to the Office Action of June 13, 2005, with reference to rejection of claims 1 and 4, 35 USC 102(a) to Shiraishi and Shiraishi-Kubler combination for the rejection of claim 5, has been fully considered but is not persuasive. The applicant alleges that the terms "erroned or errored hierarchical sequence" does not appear in the reference and that Shiraishi (239) does not disclose or teach "an erroned hierarchical sequence" recited in claim 1 as "known signal segment" in order to "determine the position of the known signal".

The Examiner's response - The examiner contends that although a claim should be interpreted in light of the specification, it is generally considered improper to read limitations contained in the specification into the claims, *In re Prater*, 415 F.2 d 1393 162 USPQ 541 (CCPA 1969). In the instant case the prior arts very clearly disclose the limitations as disclosed. The examiner respectfully would like to draw applicant's attention to Shiraishi (col. 1, lines 50-67 and col. 3, lines 11-25) showing a hierarchical transmission system, receiving IF signal clearly disclosing a front end with correlator that converts RF pulse train (waveform representative of the transmitted

pulse produced by a ultra-wideband antenna) into a baseband signal (down conversion). Here the down conversion is inherently implied within an impulse radio communication transmitter and receiver. The known signal (header of a superframe synchronization signal) labeled as errored hierarchical sequence wherein the known signal segment (constitution of superframe signal of main signal interval and burst symbol signal (pseudo random noise)) that is a sum of a correlation between the received signal and the stored hierarchical (known signal) and a correlation between the received signal and the stored signal (col. 12, lines 50-67; col. 13, lines 24-48) clearly delineate the subject matter of claim 1.

As per applicants assertion, with reference to rejection of claim 5 under 35 U.S.C. 103 (a) that Kubler does not disclose or suggest hierarchical sequence in a mobile environment, the examiner cites a new reference to reject claim 5.

Based on information as disclose, the examiner firmly believes that Shiraishi clearly addresses the claimed limitations as recited in claim 1. The claim rejection is, therefore, maintained.

#### *Claim Objections*

4. Claims 1 and 5 are objected to because of the following informalities:

Claim 1 recites, “the signal” in line 11. Should not the “the signal” be replaced to refer to “the received signal”?

Similarly, claim 5 recites , “it” in line 2. It is not clear what “it” is refereeing to. Should not the word “it” be replaced to refer either the method or steps recited in claim 1? Appropriate corrections are required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Shiraishi et al (USP 6625239).

Regarding claim 1, Shiraishi discloses a method for correlating discrete-time signal segments, wherein a predetermined signal section in a signal is determined by means of the correlation, in particular for a signal transmission system, wherein the system having the known signal segment is sent from a transmitter to a receiver, and the position of the known signal segment in the signal is determined in the receiver by means of the correlation between the received signal and the known signal segment (col. 1, lines 7-19; col. 13, lines 15-24), wherein the known signal segment is stored as errored hierarchical sequence (known signal) that is the sum of a hierarchical sequence and an error sequence, and the correlation is formed as sum of a correlation between the received signal and the stored hierarchical sequence and a correlation between the signal and the stored error sequence (col. 12, lines 50-67; col. 13, lines 24).

Regarding claim 4, Shiraishi discloses sum of a hierarchical sequence and an error sequence is carried out such that the error sequence contains as few elements as possible that are different from zero (error of 1 bit or 2 bits) (col. 15, lines 26-31).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi et al (USP 6625239) in view of Kotov et al (USP 6,731,673).

Regarding claim 5, Shiraishi discloses all limitations of the claim except use in a mobile telephone system. Kotov in a similar field of endeavor discloses a hierarchical data communication system wherein communicating sites quickly determine and identify frame synchronization by correlating samples of signal received in receiver (mobile units) (see abstract). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the features (mobile receivers or units) as taught by Kotov in the system of Shiraishi because it can provide efficient hierarchical communication network for synchronization of channels with low cell site complexity.

***Allowable Subject Matter***

9. Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim including the claim objections cited herein this office action and any intervening claims.

*Conclusion*

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014. The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.  
November 22, 2005.

*jean b. corrielus*  
JEAN B. CORRIELUS  
PRIMARY EXAMINER  
11. 23. 05